

**OPTICAL/RADIO LOCAL ACCESS NETWORK**  
**ABSTRACT OF THE INVENTION**

A communication system includes a plurality of nodes and a plurality of point-to-point links that interconnect the plurality of nodes into a network. Each node includes an optical switch to controllably route a plurality of in-ports of the optical switch into a plurality of out-ports of the optical switch. Each point-to-point link includes a free space optical channel. A first free space optical channel couples to a first node through a receive path and through a transmit path. The receive path couples to a respective in-port of the optical switch of the first node, and the transmit path couples to a respective out-port of the optical switch of the first node. In an alternative embodiment, a communication hub includes a plurality of neighborhood links to corresponding users, an optical switch coupled to the plurality of neighborhood links, and a trunk coupled between the optical switch and a free space optical channel link to the network. A method of communicating in a network having plural links includes sensing the presence of a received signal failure by monitoring channel losses in a first link, the received signal failure resulting from at least one of rain and fog. The method further includes sending data in a free space optical channel of the first link when the received signal failure sensed is due to rain and sending the data in an RF channel of the first link when the received signal failure sensed is due to fog.